

REDUCTION AND CONTROL OF HUMAN AGGRESSION

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ANSWERS IN PSYCHOLOGY No.1

ISBN: 978-1-904542-05-6

PUBLISHED BY

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INTRODUCTION

There are always general concerns about the level of aggression increasing in society. But for psychologists, the difficulty is to define human aggression before attempting to measure it. Lippa (1994) defines it simply as "behaviour directed against another living being that is intended to harm or injure" (p431). A more detailed definition might be:

any act or behaviour that involves, might involve, and/or to some extent can be considered as aiming at, the infliction of injury or discomfort; also manifestations of inner reactions such as feelings or thoughts that can be considered to have such aim (Olweus 1979).

If a definition of aggression is difficult, there is no agreement over the causes. They vary from biological and evolutionary explanations through to social learning. Examining the causes of aggression is not for now. The main focus here is on the control and reduction of human aggression.

The different techniques and ideas to reduce and control aggression are divided into four groups (table 1). There is overlap between the four groups, and they are used as much for convenience.

TECHNIQUE FOR REDUCING OR CONTROLLING AGGRESSION	RATIONALE OF TECHNIQUE
changing aggressive behaviours	punishing aggressive behaviour and rewarding non-aggressive behaviour
changing cognitions related to aggression	how individual thinks when angry that leads to aggression
changing the environment that triggers aggression	factors in environment that cause anger to become aggression
miscellaneous techniques.	eg: biological basis to aggression

Table 1 - Four main groups of techniques for reducing and controlling aggression.

CHANGING BEHAVIOUR

The focus of this group of techniques is to change the actual aggressive behaviour in some way (table 2).

TECHNIQUES TO CHANGE BEHAVIOUR

1. Punishment of aggressive behaviour
2. Rewarding alternative behaviour patterns
3. Punishment of aggressive models
4. Modelling of non-aggressive behaviour

Table 2 - Changing aggressive behaviour.

PUNISHMENT (OR THREAT OF PUNISHMENT) OF AGGRESSIVE BEHAVIOUR

CAUSE - Aggressive behaviour has been rewarded in the past and that is why it continues (Behaviourists).

The principles of operant conditioning (as advocated by Behaviourists) assert that behaviour that is punished will cease to continue. Thus the punishment of aggressive behaviour will cause it to stop. Table 3 summarises the situations where punishment and the threat of punishment can reduce aggression (Baron 1977).

PUNISHMENT WORKS:

- predictable and consistent
- given immediately after aggression
- legitimised by social norms
- administer of punishment must be non-aggressive model

THREAT OF PUNISHMENT WORKS:

- threatener not angry
- mild to severe punishment
- high likelihood of punishment happening
- aggressor no personal gain from punishment

(After Baron 1977)

Table 3 - When punishment and the threat of punishment works.

Physical Punishment

Usually the form of punishment for aggressive children is physical punishment. However, punishing aggression with aggression can produce conflicting messages for the child, and may actually increase aggression. There is evidence that children of harshly

punishing parents tend to become aggressive as adults (Vissing et al 1991).

The problem here is that parents who use physical punishment are often cold and distant, and there may not be bonding with the child. But physical punishment within a warm relationship does produce obedience when the adult is absent.

Use of Tokens

One alternative to physical punishment is the use of tokens, which can be exchanged for desirable items. Punishment would be the removal of these tokens. Hamblin et al (1969) found that for a group of hyperactive boys, this system, in fact, produced an increase in aggression through frustration. Individuals unable to control their behaviour will lose tokens, and this produces either frustration or a feeling of helplessness and lack of control. It is important to reward an alternative, desirable behaviour at the same time as punishing the undesirable behaviour.

"Token Economy Systems" (TES), where the whole institution is based around points or tokens for good and bad behaviour, has been tried in a number of places: eg "Cell Block Token Economy" in the USA (Milan et al 1974), and some Youth Offender Institutions in the UK (Cullen and Seddon 1981). Brewer (2000) notes that these schemes do control offending (including aggression) within the institution, but are of limited success outside the institution to stop general recidivism. The TES may produce a mercenary attitude in the inmates, and also cause those who cannot gain tokens to become more negative in their behaviour.

Threat of Punishment

What about the level of punishment or the threat of it? Setting the threat of severe punishment for aggressive behaviour may not be effective. A threat of mild punishment can work better. Through the process of cognitive dissonance (Festinger 1957), mild punishment has the greater effect.

Cognitive dissonance can be defined as a feeling of discomfort caused by holding two or more inconsistent cognitions (Aronson et al 1999). There are three possible responses to remove the tension:

i) change the behaviour to bring it in line with the dissonant cognitions: ie to reduce the aggressive behaviour;

ii) justify the behaviour by changing one of the dissonant cognitions: ie the threat is seen as important and so the attraction of aggression is reduced;

iii) justify the behaviour by adding new cognitions: ie the threat is seen as not important.

The situation works like this: the individual likes being aggressive and is given a threat of mild punishment. If the individual stops being aggressive, this produces a tension or inconsistency - stopping the aggressive behaviour for only a mild punishment. The response to cognitive dissonance is to change one of the cognitions - hopefully, the attraction of the aggression will be reduced - and the tension is removed. It could work the other way, and the threat of punishment is viewed as unimportant.

To work, the threat must still be undesirable, even though mild. In effect, the individual is explaining their behaviour to themselves after the event - eg: "I am not being aggressive because of the mild threat; this must be because I do not like being aggressive".

The application of mild punishment to aggressive behaviour does work. Olweus (1997) studied the use of intervention programmes to stop bullying in Norwegian and Swedish schools. Most effective is swift punishment that is not too severe.

Deterrence

These findings link to lab experiments which have found that punishment that is prompt and certain (ie it is inevitable) can be effective as a deterrent (Bower and Hilgard 1981). However, when applying the principle of punishment or the threat of punishment to the real world and criminal behaviour, it is less effective.

For example, the threat of the death penalty does not produce less homicides in the USA compared to countries without it (Archer and Gartner 1984). The key is the certainty of the punishment, not the severity.

Furthermore, any benefits of capital punishment are only short-term. Davies (1980 quoted in Malim and Birch 1988) collected the records of numbers of homicides in London between 1658 and 1921. The level of homicides dropped immediately after highly publicised executions of murderers, but rose again at about six weeks after the event.

There is some evidence, in a study with the Minneapolis Police Department (Sherman and Berk 1984), that arresting male perpetrators of domestic violence (for one or two nights), for example, is more effective in reducing re-offending than counselling or removing the

offenders temporarily from the home. However, this may only have short-term benefits (Sherman 1992).

The argument for strong deterrents to criminal behaviour in the form of severe punishment has popular appeal. Research into criminal behaviour has tried to assess whether perpetrators calculate the benefits against the costs before committing the offence. Blackburn (1993) feels that this simple equation may work for "instrumental crimes" (with material benefits, like theft), but not for "expressive crimes" (like sexual offences). Furthermore, many crimes are impulsive or opportunist.

In a hypothetical situation, Rettig and Rawson (1963) found that participants focused on the reward much more than the threat of the punishment. In fact, many offenders have "super-optimism" (an unrealistic belief in their invulnerability) (Yochel and Samenow 1976).

Maybe the fear of realiation can be used as a deterrent. This does work in lab experiments to reduce the amount of electric shocks given (the common experimental measure of aggression levels), but not if the individual is angry (Baron 1977) or drunk (Sabini 1995). In fact, in the latter group, the expectations of retaliation made the participants more likely to get in the first strike (ie it increased the level of electric shocks given).

REWARDING ALTERNATIVE BEHAVIOUR PATTERNS

CAUSE - Behaviour that is rewarded will continue to be performed (Behaviourists).

Working with the punishment of aggressive behaviour, it is important to reward non-aggressive behaviour. Then it will be clear to the individual what behaviour is desirable.

Brown and Elliot (1965) used a nursery school for a field experiment to reward non-aggressive behaviour. The teachers were asked to ignore the child when being aggressive, and give them attention (reward) when showing non-aggressive and pro-social behaviour. The average number of aggressive acts was 64.0 before the experiment began. This was reduced to 43.4 by two weeks into the experiment, and 25.6 by the end of the experiment.

Research studies have shown that children can become more helpful and altruistic by being rewarded for that behaviour (Grusec 1991).

Reward or Punishment?

Gross (1992) summarises the relative effectiveness of reward and punishment in controlling behaviour generally:

- i) Reward provides information about what behaviour is desirable, while punishment only says what is not desirable.
- ii) Punishment tends to produce hostility, while reward makes the individual feel good.
- iii) Severe punishment can easily become abuse.
- iv) Punishment used by authority figures gives the negative message of what power means.
- v) Punishment produces humiliation.
- vi) Punishment can increase the behaviour it is intending to stop by its attention on the individual only when the wrong behaviour shown (ie the attention is a reward for the negative behaviour shown).
- vii) However, reward can reduce the desired behaviour ("the paradox of reward"). Extrinsic reward (external eg money) offered for behaviour that already has intrinsic reward (internal; eg: personal satisfaction) can reduce the desired behaviour.
- viii) The combination of reward and punishment is most effective.

PUNISHMENT OF AGGRESSIVE MODELS

CAUSE - Individuals see others being rewarded for the use of aggression, and they expected to be rewarded for imitating (Social Learning Theory).

The Social Learning Theory (Bandura 1986) argues that behaviour is learnt from observing others (known as models), and then imitating that behaviour. But the observer must expect to be rewarded in some way for copying the behaviour because they have seen the model rewarded for the behaviour. Therefore if the observer sees the model punished for a particular behaviour, the observer will not copy the behaviour because they will expect to be punished for doing it.

Baron (1972) showed that participants who had seen others criticised for giving a high level of electric shocks gave less shocks to an insulter.

In a series of classic experiments at Stanford University, Albert Bandura has shown that nursery school children (average age 2 years old) will imitate an adult being aggressive towards a five foot high plastic doll ("Bobo doll"). In one version of the experiments (Bandura 1965), children saw the same short video of an adult attacking the "Bobo doll", but there were three different endings. The video lasts a few minutes and involves the adult hitting, punching, and kicking the doll in particular ways.

One group of children saw the "reward ending" where another adult gives the aggressive adult a glass of lemonade and sweets to restore their energy. In the "punishment ending", the aggressive adult is told off for their behaviour. There was a third ending which contained neither reward or punishment (control group).

After watching one of the three videos, the children are frustrated by showing them an attractive toy they cannot play with. This is an important part of the experiment that is often overlooked - deliberately making the children angry.

Then the children are allowed singly into the playroom with the "Bobo doll" seen on the video. They are covertly observed to see whether they copied the adult on the video. The average number of imitated aggressive acts per unit of time were recorded. The children who had seen the "reward ending" to the video showed 2.5 acts, which was the same as the control group. The children of the "punishment ending" group showed only 1.5 acts. Thus seeing the model's aggressive behaviour being punished had reduced the amount of aggression imitated.

But later the children in this group were told that the model should have been rewarded for their aggression, not punished. The subsequent level of aggression by the children was the same as the other groups. Punishment of the model stopped the imitation of the behaviour (ie performance), but not the learning of the behaviour. There would have to be consistent punishment of aggressive models in all situations for this technique to work.

MODELLING OF NON-AGGRESSIVE BEHAVIOUR

CAUSE - Individuals learn their behaviour from observing other's behaviour (modelling) (Social Learning Theory).

Experiments by Bandura (1973) showed that young children will imitate the aggressive behaviour of an adult (model) seen on a short video. So is it possible to apply this principle of observational learning, and to show non-aggressive models? Baron and Byrne (1997) call this the "contagion of restraint".

Baron and Kepner (1970) set up an experiment where the participants were insulted by an individual as they arrived at the experiment. The insulter was a confederate working for the experimenter. This person was put in a position where they could be given electric shocks by another confederate (the model). The insulter was given either mild or intense shocks. Then the participants had the opportunity to give shocks to the insulter. They tended to copy the level given by the model.

Copying Models

For individuals to copy the behaviour of models, there are certain characteristics of the model that are important (Gross 1992):

- i) appropriateness of the model's behaviour to the situation;
- ii) relevance of the model's behaviour to observer;
- iii) similarity between the model and the observer;
- iv) warm and friendly models are more likely to be imitated by children;
- v) the model is rewarded for their behaviour;
- vi) powerful models are more likely to be imitated;
- vii) consistency of model's behaviour.

Children who see helpful adults rewarded for their behaviour will be more helpful themselves: for example, in sharing with other children (Rushton 1975).

CHANGING COGNITIONS

This group of techniques is concerned with how the person thinks about events that lead to aggression. So the focus is upon changing these thoughts (cognitions) (table 4).

TECHNIQUES TO CHANGE COGNITIONS

1. Self-awareness
2. Mitigating circumstances
3. Training in social skills
4. Building empathy towards others
5. Reasoning
6. "Time to cool down"
7. Control theories

Table 4 - Changing cognitions about aggression.

SELF-AWARENESS

CAUSE - Anger becomes aggression through a lack of self-awareness of the triggers that makes this happen.

The problem is not with anger, but how this erupts into aggression. But simply "grinning and bearing it" is not an effective strategy, and can lead to illness (Pennebaker 1990). A constructive strategy to deal with anger is to help the person become self-aware about the links between anger and aggression. One way to do this is to confide in another person about the feelings of anger.

Another way is to encourage the person to reflect upon their feelings in some way. Berkowitz and Troccoli (1990) set up an experiment around a job interview with angry participants who were encouraged to reflect upon their feelings or not. The task was to listen to a job interviewee, and the subsequent negative attitude towards them by the participants was the measure of aggression. Some of the participants were made angry by mild pain while listening, and some could reflect upon their feelings about this pain (table 5).

Group 2 showed the most negative attitude towards the interviewee, whereas group 1 were less negative. Self reflection helped them to resolve their anger.

While "say-do-correspondence" has been developed for individuals with learning disabilities. This involves the teaching of a phrase, like "I will not punch", which is continually repeated. When this phrase becomes the behaviour, the individual is rewarded (Cullen 1993).

	MILD PAIN - HOLD ARM IN PAINFUL POSITION THROUGHOUT INTERVIEW	NO PAIN
REFLECT UPON FEELINGS USING RATING SCALE	group 1	3
NO REFLECTION	2	4

Table 5 - The four conditions of the experiment by Berkowitz and Troccoli (1990).

The principle of self-awareness has been adapted into "anger control" programmes, and the awareness of triggers for aggression for others as part of de-escalation strategies.

"Anger Control" Programmes

Raymond Novaco (1975) is seen as the originator of "anger control" programmes. His emphases were upon the role of cognitions in anger, and how anger and aggression become set patterns of behaviour.

There are many different "anger control" programmes, but they all tend to be based on Novaco's three stages - cognitive preparation; skill acquisition; and application practice.

1. Cognitive preparation

The individual comes to recognise their cognitions and patterns of behaviour, and the triggers for aggression. For example, an individual may hold beliefs like: "I'll show them that they can't get away with that" or "if I don't teach them a lesson, people won't respect me".

Sonenstein (1999) has noted how these types of cognitions are important in understanding aggression among young males in the USA. Traditional male beliefs include: "A young man should be physically tough, even if he is not big", or "A guy will lose respect if he talks about his problems". Such beliefs and cognitions underlie the steps from anger to aggression.

Reiss et al (1998) have devised 25 "anger inventory questions" to help offenders recognise the triggers to aggression in prison (table 6).

1. Being singled out for correction, when the actions of others go unnoticed.
2. Being called a liar.
6. When your room is searched.
18. Being joked about or teased.
22. Being talked about behind your back.

"How angry" responses: 0 (not at all angry) to 4 (extremely angry).

"How react" responses: 0 (I would keep my temper, stay calm and try to sort something out) to 4 (I would hit somebody).

(After Reiss et al 1998)

Table 6 - Examples of "anger inventory questions".

2. Skill acquisition

This stage is the teaching of skills to deal with the cognitions and triggers to aggression. This could include self-awareness of the build-up of anger; self-talk to defuse the aggressive reaction; relaxation training; and social skills training.

3. Application practice

This includes role playing in situations that create anger and aggression to test the skills acquired.

McDougall et al (1987) found that 18 young offenders in prison showed less aggression after undergoing an "anger control" programme (table 7). The programme involved keeping a diary of feelings and triggers to aggression in stage 1. Then stage 2 involved education about the link between anger and aggression, and relaxation techniques. The measure of aggression used was reports to the Governor for aggressive behaviour.

	GROUP ON "ANGER CONTROL" PROGRAMME	COMPARISON GROUP - NOT ON PROGRAMME
3 MONTHS BEFORE PROGRAMME	1.17	1.67
3 MONTHS AFTER PROGRAMME	0.61	4.50

(After McDougall et al 1987)

Table 7 - Mean number of Governor's Reports for aggressive behaviour for two groups of young offenders.

De-escalation Strategies

Researchers have used the knowledge of how anger becomes aggression to produce the "assault cycle" (Breakwell 1997). This is a series of steps in the process of anger to aggression, and the aftermath (figure 1). The focus is upon the environmental triggers for the angry individual, and other people can try to change the cognitions within that situation.

- 1 = trigger
- 2 = escalation (place for de-escalation here)
- 3 = crisis
- 4 = violence
- 5 = additional violence
- 6 = recovery
- 7 = post-crisis depression

Figure 1 - The stages of the "assault cycle"

Paterson et al (1997) outline a number of skills for health care workers in defusing aggressive situations with angry clients:

- a) awareness of triggers of aggression: eg pain, frustration at waiting;
- b) give individuals extra personal space when angry: standing too close can be a trigger to aggression;
- c) standing or sitting opposite can also be a trigger for confrontation. It is better to be at an angle or beside a person;
- d) the use of non-aggressive postures and non-verbal communication: eg palms open in wide view;
- e) care if touching or approaching the angry clients: such behaviour can again trigger aggression;
- f) care with the language used and how it is spoken.

Faupel et al (1998) talk about the triggers under a "firework model", and thus the best time to intervene is very early before the physiological arousal gets to an explosion point.

MITIGATING CIRCUMSTANCES

CAUSE - Frustration leads to aggression (Frustration-Aggression Hypothesis)

It may be possible to reduce the frustration that turns into aggression by giving explanations for the frustration or using mitigating circumstances.

Apology

The individual who is the cause of the frustration apologising for their behaviour. Ohbuchi et al (1989) created a situation where students did badly on a complex task due to the assistant experimenter's mistakes, and thereby producing frustration. When the assistant experimenter subsequently apologised, this produced less aggression towards them from the students than when there was no apology. The apology needed to include full responsibility for the mistakes.

On the other hand, apologies that place the cause of the behaviour that produced the anger as beyond the excuse-giver's control are more effective than those within their control. But if the apologies appear to be insincere and/or an attempt to conceal malicious intent, they do not reduce aggression (Baron 1989).

Can't Help It

There are situations where frustration can be caused by the behaviour that cannot be helped. In a group problem-solving task experiment, a hearing impaired confederate "sabotaged" the group's effort because of hearing aid failure. Because this was an uncontrollable frustration, it did not lead to the same level of aggression compared to a controllable "sabotage" (Burnstein and Worchel 1962).

A Reason For The Behaviour

Mitigating circumstances can reduce counter-aggression, but they have to be known about at the time not afterwards. Johnson and Rule (1986) set up a confederate to insult the participants in an experiment. The participants later had a chance to retaliate with a burst of loud noise in the ear of the confederate. Those participants who had been given mitigating circumstances for the confederate's behaviour (failing an exam) before the insult delivered less noise than those told the

mitigating circumstances after the insult. The former group were able to see the insult as general anger rather than personal, and this defused the situation (Aronson et al 1999).

While Kremer and Stephens (1983) found in a similar experiment that giving details of the mitigating circumstances a few minutes after the insult was more effective in reducing retaliation than giving the details immediately afterwards. The average level of retaliation was 3.8 when mitigating circumstances explained a few minutes later compared to 5.6 when explained immediately. This is based on a scale of 1-7, where the higher number is greater retaliation. Giving the explanation a few minutes later allows the angered person to calm down and respond rationally to the mitigating circumstances.

TRAINING IN SOCIAL SKILLS

CAUSE - Aggression becomes a common response pattern of individuals who do not have the social skills to resolve conflicts or reduce frustrations.

There is a negative correlation between levels of aggression and the level of social skills among individuals (Toch 1980). In other words, individuals with low social skills are more aggressive. Social skills here includes the ability to communicate anger, use criticism constructively, and how to negotiate and compromise in situations of conflict.

There is evidence that teaching such skills, and co-operation generally works with children. Davitz (1952) taught a group of children to use co-operation when playing together, then placed them in a frustrating situation. The frustration was created by showing the children a film they liked and giving them sweets, but stopping the film in the middle for no reason, and taking back the sweets. This type of experiment is seen as unethical today. The children taught to co-operate were less likely to be aggressive subsequently compared to a control group (not taught such skills).

Often aggression occurs because the individual is not able to communicate their feelings and needs. This may show itself in problems in social interaction. In a classic study of the use of social skills, Spence and Marziller (1979) took five male young offenders who were aggressive, and lacked close friends. Their interactions with adults were videotaped. The video showed that the offenders avoided eye contact, had inappropriate head movements, and gave little verbal feedback to the other

speaker, among other problems in social interaction. In other words, the problems with social interaction led to communication and relationship problems, and subsequently to aggressive behaviour.

Each offender received training sessions to improve their social skills. The results showed better social skills in the social interactions, but little change otherwise. However, extensive work by Schneider (eg: 1991) has helped aggressive-disruptive children to deal with anger in the classroom. Generally, it is felt that such training should be part of intervention programmes.

Where social skills training does reduce aggression, there are problems with maintaining changes, particularly within institutions (like prisons) with resistance to such training (Howells 1986).

BUILDING EMPATHY TOWARDS OTHERS

CAUSE - Aggression is increased if towards a victim who is dehumanized or seen as different.

The ability to feel empathy for another person reduces aggression towards them. Empathy involves putting yourself in the shoes of the other person (or victim). Baron (1976) found that only 57% of car drivers honked their horns at traffic lights when an individual on crutches was crossing on a green light, compared to 90% when the individual walked across.

The importance of building empathy to reduce aggression has been supported by lab experiments. For example, Richardson et al (1994) set up a competitive reaction-time game between male students. The faster student was able to give an electric shock (of the level of their choice) to the loser. Half of the students were encouraged to think about the feelings of the loser as they gave the electric shock. This group gave an average weaker level of shocks compared to a group not encouraged to empathise.

Feshbach and Feshbach (1969) have found a negative correlation between empathy and aggression in children. The children who are most empathetic are least aggressive. Empathy is the opposite of dehumanization, which often occurs with severe aggression.

Bandura et al (1977) recorded a third less electric shocks given to a "victim" when humanised against dehumanised. The participants giving the electric shocks "overheard" the experimenter talk about the "victim" sympathetically (humanised condition) or as "rotten" (dehumanised condition). Similarly, Ohbuchi et al (1993), working with Japanese students, had a "victim" of

electric shocks talk about themselves beforehand. This produced less shocks compared to a silent "victim".

In a survey of 11 000 British adults, ITV found that 91% answered "yes" to the question: "do crime reconstruction programmes make you feel sympathy for the victim of crime?" ("TV Violence: Will It Change Your Life? 1994).

From a slightly different point of view, Intons-Peterson et al (1989) found a change in attitudes of men towards rape if given information about the victim before seeing a sexually violent film. One of the concerns of pornographic films is the creation of "the myth of female willingness for sex, even in situations of brutality" (Brewer 2001 p12).

There was a strong correlation between "rape myth acceptance" (RMA) (ie belief that victim is to blame) and the "proclivity to rape" (RP) (ie "acceptability" of rape scenarios) amongst 125 male students questioned with the "Attraction Towards Sexual Aggression (ASA) scale (Bohner et al 1989).

More generally, Chandler (1973) found that young offenders who role-played their victims were less likely to re-offend in the following eighteen months compared to a control group.

REASONING

CAUSE - Aggression is an impulsive, automatic response.

One way to reduce "mindless" aggression (ie automatic responses) is to reason with the aggressor. But Aronson (1992) is pessimistic:

..clearly, most people would agree war is hell and and violence in the streets is undesirable. But such arguments probably would not significantly curtail aggressive behaviour, no matter how sound, no matter how convincing (p277).

Also this is of limited use with children.

Often anger leads to a "cognitive deficit" (Baron and Byrne 1997), and the individual does not assess the future consequences of their actions. In other words, the emotions take over from reason. One way to overcome the impulsive response of anger is to prepare beforehand. If a situation is predicted to be frustrating, then the individual can make pre-attributions for what will happen - attribute the frustration to unintentional causes

rather than individuals, for example. Also not to ruminate on anger-inducing thoughts beforehand, but think about the opposite (Zillman 1993).

"TIME TO COOL DOWN"

CAUSE - Aggression is an immediate response to anger or frustration.

Giving individuals "time to cool down" after they were frustrated or angry reduces aggression. Participants insulted, but left one hour before asked questions about the incident, were less aggressive than those questioned immediately after the incident (Berkowitz 1969).

Tyler and Brown (1969) tried the use of a "time-out" room for boys in an institution for delinquents. A boy caught fighting was immediately removed to this bare room, and could only leave when he was calm. This procedure led to a reduction in the frequency of misbehaviour. The use of such a technique is really a form of punishment for the aggressive behaviour.

CONTROL THEORIES

CAUSE - Aggression occurs because individuals are not able to control their behaviour or not to integrate into society's controls.

This is a series of theories within sociology which focuses upon the controls in society or the individual that stop the majority of people from committing aggressive or criminal acts. One way to introduce control, for example, is the integration into society through institutions like work and marriage. In other words, control of "anti-social" behaviour is reduced by the individual's bond to society (Lawson 1999).

Hirschi (1969) developed the social control theory to include four elements of social bonding:

- i) attachment - to peers, school, social institutions, and family;
- ii) commitment - to personal property, and the conventional goals of society;
- iii) involvement - in conventional activities of society reduces the opportunities for crime;
- iv) belief - shared common beliefs of society.

CHANGING THE ENVIRONMENT

Anger can turn into aggression because of factors in the environment. This group of techniques focuses upon changing the environment to eliminate the situational triggers for aggression (table 8).

TECHNIQUES TO CHANGE ENVIRONMENT

1. Controlling triggers
2. Intergroup conflict
3. Creating responses incompatible with aggression
4. Creating environments which restrict the opportunities for aggression
5. Social norms

Table 8 - Changing the environmental factors that encourages aggression.

CONTROLLING TRIGGERS

CAUSE - Frustration leads to aggression because of certain environmental triggers (Frustration-Aggression Hypothesis).

The aim here is to control the triggers in the environment that cause aggression. These triggers include overcrowding, heat, noise, and pain. Removing these triggers may not be easy, but the changing of cognitions towards them could be the answer.

The triggers to frustration can include social phenomena like unemployment, which can only be dealt with at a Governmental level. Young New Zealanders (16-18 year olds), who were unemployed were three times more likely to commit violent offences than those of the same age never unemployed since school (Fergusson et al 1997). However, this may be due to the more time to fill if unemployed than just the frustrations of unemployment.

While Ransford (1968) found high levels of social and economic frustration among those involved in rioting in Los Angeles at the time. Straus et al (1980) have noted that low income is associated with violence between siblings, parental abuse of children, and partner violence.

INTERGROUP CONFLICT

CAUSE - Aggression develops out of the conflict between groups.

In situations of competition, groups may come into conflict, particularly where resources are scarce. The use of mediators to help resolve the conflict, and getting the groups to co-operate can reduce aggression.

Research on group behaviour has shown that individuals show favouritism towards their group (ingroup) and discrimination against the outgroup (those in the other group). This is the case when there are clear differences between the two groups. Crisp (2002) argues that this antagonism towards the outgroup can be reduced by multiple categorisation of group membership. In other words, individuals cannot simply be divided into two groups based on social class, say, but are categorised by social class, gender and age, which all cut across each other.

Crisp et al (2001) looked at outgroup antagonism when comparing Cardiff and Bristol students. When this distinction of university attended was the only criteria for group divisions, there was a clear difference in attitudes towards the ingroup and outgroup (average 1.5 points difference on an attitude scale).

When multiple criteria were used for distinguishing individuals, the difference in attitudes between the ingroup and outgroup was reduced to 0.5 points on average. In other words, there was little favouritism towards the ingroup compared to the outgroup. The multiple criteria used were "university attended", "psychology students", "females", "living in university accommodation", "18-21 years old", and "born in the UK".

The best known example of reducing aggression and antagonism by co-operation between groups is a series of field experiments by Sherif and Sherif (1953). At a summer camp, boys were divided into two groups who became very antagonistic. But the researchers created "mini-crises" (eg breakdown of water supply) that needed the groups to co-operate to overcome them. This technique succeeded in reducing aggression and antagonism between the groups. Such techniques of co-operation with the "enemy" work for that situation, but do not necessarily generalise to other situations (Aronson and Patnoe 1997).

CREATING RESPONSES INCOMPATIBLE WITH AGGRESSION

CAUSE - Aggression is triggered by situational factors.

This approach to controlling aggression focuses upon the aggressive response, and tries to make that incompatible with the situation.

Baron (1976), in a series of similar experiments, used the horn-honking of car drivers at traffic lights as the measure of aggression. The baseline measure was the number of horns honked at a person walking across the road in front of the cars on a green light, and thereby holding up the cars. There was less aggression when the person who walked across was dressed as a clown (humour).

Diverting the anger into humour seemed to reduce aggression because those two responses are incompatible. Likewise, showing angry participants, non-violent cartoons reduced their aggression compared to neutral pictures (Baron 1983).

CREATING ENVIRONMENTS WHICH RESTRICT THE OPPORTUNITIES FOR AGGRESSION

CAUSE - Factors in the environment encourage aggression.

"Situational crime prevention" focuses upon changing the environment to reduce the opportunities for crime. Applying these ideas to aggression, the aim would be to restrict the opportunities for aggression (particularly related to crime).

There are two main ways to do this:

- i) controlling the facilitators for aggression - eg: weapons, alcohol;
- ii) increasing the risk and negative consequences for aggression - eg: surveillance and arrest; sentencing.

There is concern that such environmental changes may only control aggression in one area, and it will be displaced to another less controlled area. Crawford (1998) also argues that public aggression (eg street-fighting) may be pushed into private (eg family violence).

SOCIAL NORMS

CAUSE - Aggression is a norm in a group or society.

A norm is "a statement made by members of a group, not necessarily all of them, that its members ought to behave in a certain way in certain circumstances" (Homans 1961). On the negative side, for example, the norm of fighting in response to an insult. Norms are important in the context of group pressure to conform to them.

There are two types of norms - informal or implicit, and formal or explicit. Formal norms are rules laid down by law, for example, about what is legal and illegal behaviour. Informal norms develop spontaneously within a group as a means of controlling member's behaviour. Encouraging non-aggressive norms will help to reduce aggression.

There are cultural differences in the norms about aggression (Smith and Harris 1993). Osterman et al (1994) questioned 8 year-olds in a number of countries about physical, verbal and indirect (eg: telling lies about person) levels of aggression. As well as self-ratings, the researchers got peer ratings from classmates on the same criteria. The USA children were most aggressive (African-American and Caucasian). The average self rating of aggression was 0.45 for African-American children compared to 0.25 for Polish children, and 0.05 for Finnish children.

The key seemed to be the norms for settling interpersonal differences in each culture: ie the use of aggression or peaceful resolution. Baron and Byrne (1997) suggest that:

..culture.. sets the "ground rules" for aggression early in life, and once established these rules exert strong effects in such behaviour throughout the remainder of adult life (p429).

Norms will influence behaviour. For example, people who consider war inevitable are less likely to support teaching or working for peace.

Howitt et al (1989) note that phrases like "it's a dog-eat-dog world" infer that aggression is inbuilt, and also desirable in certain situations. These examples set the agenda or norms that allow aggression to be "acceptable behaviour". Phrases like this are "explanatory tools" for understanding behaviour and knowing how to behave.

Language sets the agenda in a society or group, and changing the language (and assumptions therein) are

important.

For example, if the people of a particular culture at a particular point in history subscribe to the views that humans are inherently animalistic and violent, and furthermore that these are primarily properties of the male of the species, their actions will consequently make it so (Cardwell and Humphreys 1998 p5).

There is work to show how a certain level of aggression is seen as a "normal" part of traditional masculinity within "consumer capitalism" (eg: in the workplace - Collinson and Heard 1996; and in leisure-time activities - Canaan 1996).

It is possible to have norms of social responsibility and reciprocity which encourage pro-social behaviour.

MISCELLANEOUS TECHNIQUES

There are other ways to reduce and control aggression (table 9).

MISCELLANEOUS TECHNIQUES

1. Catharsis
2. Physical treatments
3. Diet

Table 9 - Miscellaneous techniques for reducing and controlling aggression.

CATHARSIS

CAUSE - Aggression occurs because aggressive energy builds up and has no "constructive" release (Psychoanalysis)

Aronson et al (1999) define catharsis as:

the notion that "blowing off steam" - by performing an aggressive act, watching others engage in aggressive behaviours, or engaging in a fantasy of aggression - relieves built-up aggressive energies and hence reduces the likelihood of further aggressive behaviour (p482).

So aggressive energy can be released by:

- a) watching others being aggressive: eg boxing;
- b) engaging in aggressive fantasies: eg video games;
- c) channelling the aggression into "acceptable" or controlled situations: eg competitive sport.

This idea fits well with the general belief of "get it out of your system". The concept of catharsis comes from Sigmund Freud (1933), who saw the build up of aggressive impulses as inevitable. The key for him was to find harmless ways to release these impulses. It is linked to Freud's idea of Thanatos (death wish), which is an instinct underlying much of our behaviour. These impulses can be internalised as aggression towards the self.

Evidence

But what is the evidence for catharsis as reducing aggression generally? Hokanson (1970) found a lowering in blood pressure in angry participants who could displace these feelings by giving electric shocks to a "victim", or fantasising about harming an insulter. This is a rare study in its findings.

Patterson (1974 quoted in Aronson et al 1999) measured the hostility level of high school American football players before and after the season. The players' level of hostility was higher after the season rather than lower as catharsis would predict. It could be that playing competitive sports is not cathartic because of the frustrations of the game, but even watching such games increases aggression levels (eg Russell 1983 and Canadian ice hockey games).

Research into watching aggression on television as cathartic has also found negative results. Gross (1992) summarises the main findings of such research:

a) participants who watched aggression give more electric shocks to "victims" than those who watched non-aggressive programmes;

b) angry participants who watched aggression on television are the most aggressive of all.

But Gunter and McAleer (1990) do believe that imaginative children may be able to release their anger through watching aggression on television.

There is the argument that catharsis may work in situations of anger. If a person makes you angry, a mild release of aggression could stop an escalation towards that person. But spouses encouraged to vent their hostility verbally about their partners showed more subsequent physical aggression in a study of over 2000 couples (Straus et al 1980).

Lab experiments have also found similar results: mild acts of aggression increase the tendency for future aggression. Geen et al (1975) found that insulted participants wanted to give more electric shocks to the insulter after giving them mild shocks, not to give less.

In another contrived experiment, Kahn (1966) had a medical technician insult a student as they were undergoing a medical examination. In one condition, the students were allowed to return the insult (cathartic condition), and in the other condition, they were not. Afterwards, the students had the opportunity to file a formal complaint against the medical technician (the

measurement of aggression). The students who could return the insult showed no less desire to file a complaint than the other group.

A natural experiment to test the idea of catharsis can be done when countries have been in a war. After the war (ie the release of aggression) does the level of aggression at home (as measured by the homicide rate) decrease?

Archer and Gartner (1984) collected the data on homicides rates from 29 combatant and 15 non-combatant countries between 1900-70. Immediately after a war, the countries involved were more likely to show an increase in homicide rates (table 10).

	COUNTRIES AT WAR	COUNTRIES NOT AT WAR
INCREASE IN HOMICIDE LEVELS	18	5
DECREASE IN HOMICIDE LEVELS	6	7
NO CHANGE	5	3

(After Archer and Gartner 1984)

Table 10 - Changes in homicide levels in countries after a war or not.

Justification of Aggression

Expressing aggression once can reduce the inhibitions on expressing it again. Once the aggression is expressed, the attitudes towards the target are changed in a negative way. In other words, a process of self-justification takes place. This includes blaming the victim. Henderson and Hewstone (1994) see this as a "defensive attributional mindset": violent offenders only took responsibility for their aggression when they felt the victim had provoked them.

Davis and Jones (1960) found that it was easier for participants to give electric shocks to a "victim", when that victim had been derogated or dehumanised.

There is plenty of evidence that it is easier to be aggressive towards individuals when the aggression feels justified or the blame for the aggression is placed upon the victim. Byers et al (1999) examined the phenomena of "clapping" in the USA.

"Clapping" is the harassment, intimidation and vandalism against the Amish community. Perpetrators use a series of "neutralisations" (justifications) to make

their aggression "acceptable" - eg: "they (Amish) are used to it" or "no one really ever got hurt".

On the other hand, continually not expressing anger can cause problems. Megargee (1966) reports the case of individuals who never express anger and always "take it" (eg bullied). Then one day they "snap" and show uncharacteristically high levels of violence. This is sometimes applied to mass killers (individuals who kill a large number of people in one apparently unprovoked attack).

PHYSICAL TREATMENTS

CAUSE - Biological theories of aggression are based upon brain abnormalities, overproduction of certain hormones (eg: testosterone), or neurotransmitter problems (eg: low levels of serotonin).

If there are biological causes to aggression, then there must be biological interventions to control it. There are a number of ways of doing this:

i) Surgery - eg: removal of part of the brain (psychosurgery).

ii) Chemical - drugs to reduce the overproduction of certain hormones.

James (1996) reports studies of the use of drugs to increase the production of serotonin to reduce aggression. However, all drugs have side effects, and there is the question whether individuals left unsupervised would take them regularly.

"Ritalin" is often prescribed to children with Attention Deficit Hyperactivity Disorder (ADHD) to reduce their impulsive and aggressive behaviour. It stimulates the underactive part of the frontal cortex, which is believed to be the cause of the impulsivity.

These methods have limited success.

DIET

CAUSE - Poor diet affects the chemical balance of the brain and this can cause aggression (for example, through deficiency in essential fatty acids; EFA).

A diet deficient in vitamins and minerals may influence the individual's behaviour and make them more aggressive. West (1997) reports studies in the USA, which

have found a 40% reduction in aggression by using nutritional supplements.

Schoenthaler (1989 quoted in Gibbs 1995) carried out a study with 402 offenders in Californian prisons. They were divided into three groups on a random basis. Group 1 were given vitamin and mineral supplements to the Recommended Daily Allowance (RDA). Group 2 were given three times the RDA, and the last group had a placebo (sugar pill). "Rule violation" was used as the measure of aggression.

The first group showed a reduction of a third while taking the supplements, compared to a 20% increase in the placebo group. Group 2 showed a small reduction in "rule violation". Thus giving the RDA of vitamins and supplements improves behaviour, but it does not work to give more than the RDA.

But diet changes by itself will not stop aggressive behaviour.

CONCLUSIONS

The best way to control and reduce aggression is to use a combination of techniques. Single techniques by themselves are not enough. Thus intervention programmes, in prison for instance, tend to be multi-modal.

Hollin and Howells (1997) give details of a programme used with "John" (23 years old) and his "uncontrollable violence". Before the intervention programme, he averaged 4-5 violent acts per week. This was reduced to two acts only in the whole 12 months following the programme. The intervention programme used a number of techniques:

- i) desensitization to provoking stimuli - reducing the impulsive aggressive reaction to certain stimuli;
- ii) active challenging of thought patterns related to aggression;
- iii) environmental control - eg: removal of self from risky situations;
- iv) rehearsal and practice of alternative behaviour patterns.

Gibbs (1995) lists a number of techniques used in combination with young offenders to reduce re-arrest levels. Most of the offenders showed aggressive behaviour as well as other problems:

- teaching job skills;
- rewarding pro-social behaviour;
- family interventions - eg: teaching parents better monitoring of their children, and more consistent, less coercive discipline techniques.

A more formal intervention programme, Aggression Replacement Training (ART) uses three main approaches:

- i) structured learning training including social skills training and social problem-solving;
- ii) "anger control" training;
- iii) moral education.

Table 11 gives an example of the ART core curriculum.

In a New York study of ART, re-arrest rates were 15% for the ART group and 43% for the control group

WEEK	SKILL TAUGHT	NUMBER OF STEPS TO LEARNING SKILL
1	expressing complaint	6
2	responding to feelings of others (empathy)	4
3	preparing for stressful conversations	7
4	responding to anger	5
5	keeping out of fights	4
6	helping others	4
7	dealing with an accusation	4
8	dealing with group pressure	4
9	expressing affection	5
10	responding to failure	5

(After Goldstein and Glick 1996)

Table 11 - Anger Replacement Training core curriculum.

(Goldstein et al 1989). The success of such techniques are very important, but there are also weaknesses. Where violence is used for an ulterior purpose (in robbery, say), there is limited success in reducing it (Rutherford 1995).

Concerning the violence in families, Goldstein (1983) argues for three levels of techniques to reduce it:

- i) primary prevention - stop the behaviour before it starts with education, legislation, and dealing with economic causes (eg: poverty, unemployment);
- ii) secondary prevention - early identification of problems: for example, not ignoring the victim who appears at the hospital with injuries;
- iii) tertiary prevention - treatment for re-occurrent family violence, both psychological and practical (eg refuges).

The success of any intervention programme to reduce aggression depends upon the social context, and the existence of social norms against aggressive behaviour.

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